

REMARKS

This reply encompasses a bona fide attempt to overcome the rejections raised by the Examiner and presents amendments as well as reasons why the applicants believe that the claimed invention is novel and unobvious over the closest prior art of record, thereby placing
5 the present application in a condition for allowance.

Regarding Claim Status

Claims 7-10 and 20-22 were pending. Claims 7, 8, 10, 20, and 21 were rejected. Claim 21 is amended herein.

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Claims 9 and 22 have been allowed. By this Amendment, claims 7-10, and 20-22 are pending.

Regarding 35 U.S.C. § 103 Rejections

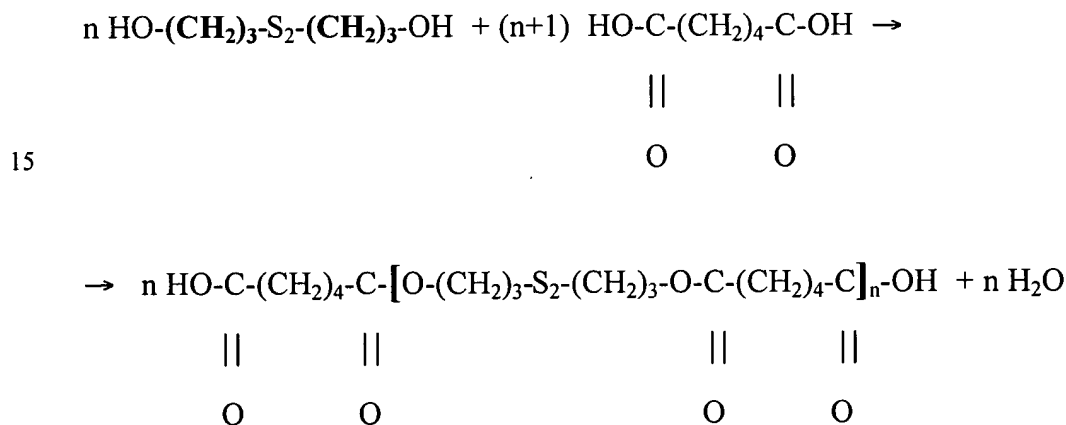
Claims 7-8, 10, 20, and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over
15 Wilson (U.S. Patent No. 5,342,724) in view of Richter et al. (U.S. Patent No. 2,582,605). It is respectfully submitted that claims 7-8, 10, and 20-21 are not obvious from the combination of Wilson and Richter and therefore should be allowed.

Wilson teaches the preparation of compositions including condensation products of disulfide
20 containing diols and diacids to form polyesters. As stated by the examiner, Wilson does not teach the use of bis(hydroxyethyl) disulfide to form sulfur-containing polyesters. The examiner states that it would have been obvious to one of ordinary skill in the art at the time of the invention to use bis(hydroxyethyl) disulfide instead of bis(hydroxypropyl) disulfide as

the disulfide containing diol taught by Wilson as beta-hydroxyl sulfides have unusually reactive hydroxyl groups. In fact, however, substitution of bis(hydroxyethyl) disulfide for bis(hydroxypropyl) disulfide under the conditions taught by Wilson, would not give the compositions described and claimed in the present invention.

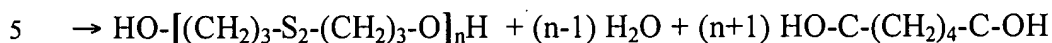
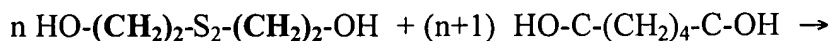
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If a person of average skill in the art mixed a diacid (for example, an adipic acid), with a polysulfide diol (for example, bis(gamma-hydroxypropyl) disulfide, where sulfur atoms are separated from the hydroxyls by a propyl radical, which is described by Wilson in col. 7 line 4) under the conditions described by Wilson (an inert, e.g. argon or nitrogen, atmosphere @ 10 180°C-280°C in the presence of a Lewis acid catalyst – col. 3, lines 65-70), the following reaction of polyesterification would take place:



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In contrast, if a person of average skill in the art mixed bis(β-hydroxyethyl) disulfide with a diacid (for example, an adipic acid) under the conditions described by Wilson, the above polyesterification reaction would not take place. Instead, the following polyetherification reaction would take place:



That is, the adipic acid will remain practically unreacted, while β -dithiodiglycol will be converted into a solid polyether, similar to the solid balsam described by Weihe et al (U.S. Patent No. 2,221,418). This is because hydroxyl groups in the β position to a sulfur atom are so reactive to each other, that under most conditions they react with each other even in the presence of dibasic carbonic acids, thus forming polythioethers instead of polythioesters.

It took the inventors a tremendous amount of effort and experimentation to identify the conditions that are described in the application, wherein the reaction of polyesterification in a mixture of β -dithiodiglycols with dibasic carbonic acids is prevalent over the reaction of homopolyetherification of β -dithiodiglycols. Therefore, it is respectfully submitted that since mixing β -dithiodiglycols with dibasic acids under the conditions specified by Wilson would not give the compositions described and claimed by the present invention, it would not have been obvious to one of ordinary skill in the art at the time of the invention to use the methods of Wilson to form polyesters from mixing β -dithiodiglycols with dibasic acids.

Claim 21 is particularly amended herein to more particularly point out the novel conditions described by Applicants' invention.

Regarding Examiner's Response to Arguments

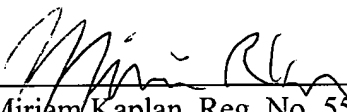
5 The Examiner states that it would have been obvious to substitute bis(hydroxyethyl) disulfide for the disulfides set forth in Wilson. In addition, the examiner states that applicants have not adequately explained why mixing bis(hydroxyethyl) disulfide with a dibasic acid under the conditions set forth by Wilson would not give the polyester compounds described and claimed by Applicants' invention. Applicants respectfully submit
10 that the preceding discussion provides an adequate explanation of why this is so. In addition, applicants respectfully submit that any other concerns raised by the examiner are rendered moot by this explanation.

Conclusion

For the foregoing reasons, it is respectfully submitted that the invention as set forth in independent claims 7 and 20 and amended independent claim 21 recites subject matter that is patentably distinct, under 35 U.S.C. § 103(a), from Wilson and Richter. Accordingly, claims
5 7, 20 and 21 are submitted to be patentable and therefore should be allowed. Claims 8 and 10 are submitted to be patentable as they are dependent on independent claim 7.

This Reply is submitted to be complete and proper in that it places the present application in a condition for allowance without adding new matter. Favorable consideration and a Notice
10 of Allowance of all pending claims 7-10 and 20-22 are therefore respectfully solicited.

Respectfully submitted,



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